

## CLAIMS

What is claimed is:

1. A method for verifying accuracy of a database file in a backup system by performing a transaction level audit, said method comprising the steps of:

(1) transmitting a production journal receiver from a production system to a backup system;

(2) creating a backup database file from the production journal receiver;

(3) generating a backup journal in the backup system from the backup database file;

(4) generating a backup journal receiver from the backup journal; and

(5) comparing the backup journal receiver and the production journal receiver to thereby identify differences therebetween.

2. The method as defined in claim 1 wherein the method further comprises the steps of:

(1) generating a production journal from a database file on a production system; and

(2) generating the production journal receiver from the production journal.

3. The method as defined in claim 2 wherein the step of creating a backup database file from the production journal receiver further comprises the step of performing an apply process on the production journal receiver that is received from the production system.

4. The method as defined in claim 3 wherein the method further comprises the step of identifying errors in the backup database file at a transaction level from the comparison of the backup journal receiver and the production journal receiver.

5. The method as defined in claim 4 wherein the method further comprises the step of repairing entries in the backup database file by using the identified errors.

6. The method as defined in claim 5 wherein the method further comprises the step of repairing incorrect entries in the backup database file without having to resynchronize the backup database file.

7. The method as defined in claim 6 wherein the method of performing an audit of a database file in a

backup system is characterized by reducing processor overhead on the production system by performing the audit entirely on the backup system.

8. The method as defined in claim 6 wherein the method of performing an audit of a database file in a backup system is characterized by reducing processor overhead on the production system by eliminating a need to perform a cyclical redundancy check process on the production system.

9. The method as defined in claim 6 wherein the method of performing an audit of a database file in a backup system is characterized by reducing processor overhead on the production system by eliminating a need to perform a data harvest on the production system.

10. The method as defined in claim 6 wherein the method of performing an audit of a database file in a backup system is characterized by reducing processor overhead on the production system by eliminating a need to perform filtering of data from the resulting data harvest.

11. The method as defined in claim 6 wherein the method of performing an audit of a database file in a backup system is characterized by reducing processor overhead on the backup system by making more efficient the running of a cyclical redundancy check process on the backup system.

12. The method as defined in claim 1 wherein the method further comprises the step of transmitting data changes in the production journal receiver to the backup system at an operating system level.

13. The method as defined in claim 12 wherein the step of transmitting data changes at the operating system level further comprises the step of transmitting data in machine code to thereby reduce latency between the production system and the backup system.

14. The method as defined in claim 13 wherein the step of reducing latency further comprises the step of performing data transfer at a relatively high rate of speed even if the production system is processing a large number of transactions.

15. A method for verifying accuracy of a database file by performing a transaction level audit without creating more overhead on a production system, said method comprising the steps of:

- (1) transmitting production journal receiver entries from a production system to a backup system;
- (2) re-creating a copy of a database file on the backup system from the production journal receiver entries;
- (3) generating a backup journal receiver on the backup system from the copy of the database file; and
- (4) comparing entries in the backup journal receiver with the entries from the production journal receiver to thereby identify differences therebetween.

16. The method as defined in claim 15 wherein the method further comprises the step of creating a journal receiver on the backup system from the production journal receiver entries received from the production system.

17. The method as defined in claim 16 wherein the method further comprises the step of performing an apply process on the journal receiver on the backup

system to thereby re-create the copy of the database file on the backup system.

18. The method as defined in claim 17 wherein the step of generating the backup journal receiver on the backup system from the copy of the database file further comprises the steps of:

(1) creating a backup journal from the copy of the database file on the backup system; and

(2) creating the backup journal receiver on the backup system from the backup journal.

19. The method as defined in claim 18 wherein the method further comprises the step of identifying errors in the copy of the database file at a transaction level from the comparison of the backup journal receiver and the production journal receiver entries.

20. The method as defined in claim 19 wherein the method further comprises the step of repairing entries in the copy of the database file by using the identified errors.

21. The method as defined in claim 20 wherein the method further comprises the step of repairing incorrect entries in the copy of the database file without having to resynchronize the copy of the database file.

22. A method for auditing records in a backup database file without the need to harvest data from a production system, said method comprising the steps of:

- (1) transmitting a production journal receiver from a production system to a backup system;
- (2) applying the production journal receiver to thereby enter transactions into a backup database file;
- (3) generating a backup journal receiver from the backup database file; and
- (4) comparing the backup journal receiver and the production journal receiver to thereby perform an audit of records in the backup database file.